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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,061	10/01/2003	Robert Vago	0069317-000004	7749
21839	7590	11/20/2006	EXAMINER	
BUCHANAN, INGERSOLL & ROONEY PC			ROY, BAISAKHI	
POST OFFICE BOX 1404			ART UNIT	PAPER NUMBER
ALEXANDRIA, VA 22313-1404			3737	

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/676,061		VAGO, ROBERT	
	<b>Examiner</b>		<b>Art Unit</b>	
	Baisakhi Roy		3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/25/05, 11/10/05, 01/02/04</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 2, 4-14, 16-25, and 27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-42 of U.S.

Patent No. 5305737. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims anticipate the current application claims.

3. Claims 19-25 and 27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 5665141. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims anticipate the current application claims.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4-14, 16-25, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Vago (5665141). Vago discloses a wound treatment apparatus and method (col. 7 lines 12-20), comprising a tank (fig. 2 #16), an electromechanical transducer in pressure-wave transmitting relationship to the tank for generating ultrasonic pressure waves in water contained in the tank, an electrical signal generator connected to the transducer for energizing same with an alternating electrical signal effective to generate stable cavitation in the water contained in the tank (col. 9 lines 16-33). The system further comprises a water feed pipe extending to the tank with said pipe having an elbow-type bend (fig. 2, col. 9 line 10), an injector or an additive dispenser (col. 9 line 11-12), a valve connected to the injector for introducing air or disinfectant can be introduced into a water stream along the feed pipe (col. 9 lines 13-15). The system further includes a sensor (fig. 2 #17) being in pressure-wave transmitting relationship with water in said tank for detecting cavitation in the water in the tank (col. 9 lines 60-67, col. 10 lines 1-7), where said sensor is a probe (col. 10 line

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35). The system includes a microprocessor connected to the signal generator for determining a rectified/full duty cycle at which inertial or transient cavitation disappears (col. 8 lines 1-6). The system further includes a display operatively connected to the microprocessor for communicating to the operator the status of cavitation in the tank (col. 14 lines 15-20).

The method involves ultrasonically generating stable vibrating bubbles in the aerated water by energizing a transducer with periods of full-wave compression and rarefaction cycles alternating with periods of rectified-wave compression pressure cycles sufficient to suppress inertial or transient cavitation for a predetermined interval (col. 7 lines 61-67, col. 8 lines 1-16, col. 10 lines 52-64). In order to avoid instabilities, an asymmetric pressure wave is applied with a particular range of frequencies to provide the desirable beneficial effect (col. 3 lines 31-55, col. 4 lines 26-36 lines 43-47). The process involves removing organism from the tank, delivering an additive or detergent or disinfectant and water to the tank, and inducing ultrasonic transient cavitation in the water and disinfectant in the tank (col. 10 lines 43-45). The reference teaches the use of active agents that reduce surface tension between different thermal areas in the water or other liquid such as those between air and the liquid are included as an additive (col. 18 lines 10-15). The reference also includes a degasser with a vacuum portion intended to remove carbon dioxide creates vacuum by the increased velocity liquid causing small bubbles to form (col. 20 lines 50-65).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 15, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vago in view of Schutt (6036644). Vago does not explicitly disclose a venturi injector. In the same field of endeavor Schutt discloses the use of a venturi injector (col. 12 lines 4-5). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Schutt to modify the teaching by Vago for the purpose of enabling the formation of microbubbles as ultrasound contrast enhancement agents and therefore enhanced imaging. (col. 4 line 49).

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO 892 for relevant references of interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baisakhi Roy whose telephone number is 571-272-7139. The examiner can normally be reached on M-F (7:30 a.m. - 4p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BR

BR

  
BRIAN L. CASLER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700